

AICTE Sponsored Online Short Term Training Programme
On

Functional Metagenomics and Bioprocessing of Therapeutic Enzymes (FMBTE – 2021)

19 – 24th April 2021
(Phase-III)



Organised by



Department of Biotechnology
(Accredited by NBA)

Sri Venkateswara College of Engineering

(Autonomous – Affiliated to Anna University)
Sriperumbudur Tk. – 602 117, Tamil Nadu

About the Institute

Sri Venkateswara College of Engineering (SVCE), is a unit of Sri Venkateswara Educational and Health Trust (SVEHT). The Trust was founded on 1 August 1985 at the behest and benign blessings of His Holiness Pujashree Kanchi Kamakoti Peedathipathi Sri Jayendra Saraswathi Swamikal. Dr. A. C. Muthiah, a renowned engineer, industrialist and philanthropist, is the Chairman of the Governing Council of the college. SVCE is one of the premier technical institutions in Tamilnadu, the College is situated on the Chennai – Bangaluru National Highway (NH4) about 37 km south-west of Chennai. The college is in a 95-acre lush green Campus. It is housed in architecturally exquisite buildings with ample infrastructure such as classrooms, laboratories, libraries, sports arena, canteen, hostels, dispensary etc. The college offers 11 UG programmes and 7 PG programmes. The National Board of Accreditation accredited many of the eligible programmes, and SVCE is an ISO 9001:2015 certified institution.

About the Department

Sri Venkateswara College of Engineering noted the growth in Modern Industrial Biotechnology. In order to support the growth in Biotechnology, SVCE started the Department of Biotechnology in 2005 under the guidance of our Chairman Dr. A.C. Muthiah, a well-known Industrialist who understands the strength of Industrial Biotechnology.



The department offers B.Tech and M.Tech Biotechnology programmes approved by AICTE. B.Tech programme is accredited by NBA. It is also approved as a Research

Center in Biotechnology for MS (by Research) and Ph.D. programmes by Anna University, Chennai. The Department has well established laboratory facilities namely Genetic Engineering, Bioprocess, Research Lab, Animal house and Computational System Biotechnology Lab. The Department received Research Grants (1.7 Crore) from various funding agencies such as SERB, ICMR, AICTE, CTS and also several grants for organising Short Term Training courses, Workshops, Faculty Development Programmes from various funding agencies such as DBT, SERB, ICMR, CSIR and EDII.

Video tour of the department: <https://youtu.be/p6TZo15pL7U>

About the Short Term Training Programme

Vast majority of microbes (around 95-99%) in any chosen environment are uncultivable and therefore these microbes cannot be studied using traditional microbial techniques. Metagenomics provide a new paradigm for researches to look at the uncultivable microbial communities and to transform the way we seek for solutions to biomedical/therapeutic, energy and environmental related problems. There is an inherent lag in teaching and learning of the concepts in metagenomics and recombinant protein production due to lack of exposure/opportunity to learn by hands-on experience. Faculty members need to update and reorient themselves to meet the rapidly changing professional and scientific needs of the society. This STTP is designed to bring together the experts working in metagenomics and bioprocess engineering to impart knowledge to the participants about metagenomics and its application in industrial biotechnology. This STTP is expected to benefit faculty members from AICTE approved engineering colleges, scientists and researchers who are working/ teaching in the area of Biotechnology/Bioinformatics/Chemical Engineering. **This online STTP will be conducted through Google Meet platform.** The exact program with slot-wise distribution of lectures will be made available in the website ([Click Here](#)) in due course of time to all those who register their “Expression of Interest” to attend the programme.

Resource Persons

Eminent personalities from Department of Biotechnology (DBT), Government of India, IIT's, Anna University, R&D centers and Industries will share their expertise on metagenomic and its implication in bioprocess engineering.

KEYNOTE SPEAKERS

Dr. N. Ayyadurai

Principal Scientist, Biochemistry &
Biotechnology, CSIR-CLRI
Central Leather Research Institute, Chennai

Dr. Mahejibin Khan

Senior Scientist, Microbiology & Fermentation
Technology, CSIR-Central Food Technological
Research Institute, Mysore

Dr. Rakesh Sharma

Senior Principal Scientist, Microbial Genomics,
CSIR- Institute of Genomics and Integrative
Biology, New Delhi

Dr. V. Naveen Kumar

Founder & Managing Director
ImmuGenix Biosciences Pvt Ltd, Chennai

Dr. Chinnarajan Ravindran

Senior Scientist, Biological Oceanography
CSIR- National institute of Oceanography, Goa

Dr. Rajesh Kumar Kesharwani

Associate Professor,
Department of Computer Application,
Nehru Gram Bharati, Prayagraj

Dr. K. Anbarasu

Assistant Professor, Department of
Biotechnology, Periyar Maniammai Institute of
Science & Technology

Dr. Gopi Ramakrishnan

Chief Operating Officer
Fermentech GSV Pvt Ltd, Thanjavur

Dr. Kathiresan

Associate Professor,
School of Life Sciences
Central University of Tamilnadu

Dr. V. Vinoth Kumar
Associate Professor, Department of
Bioengineering, School of Bioengineering
SRM Institute of Science and Technology,
Kattankulathur

Dr. Arnold Emerson I
Associate Professor, Department of
Biotechnology, School of Bio Sciences and
Technology, VIT Vellore

Dr. Rajni Chopra
Associate Professor, Department of Food
Process Engineering, National Institute of Food
Technology Entrepreneurship and Management,
Harvana

Dr. Jagan Obbineni
Assistant Professor, School of Agricultural
Innovations and Advanced Learning,
VIT Vellore

Col. B. Venkat
Director, Faculty Development, AICTE - All India
Council for Technical Education,
New Delhi

Key Points for the Participants

- The faculty members/ Post-Doctoral Fellows/ Research Scholars of AICTE approved technical institutions, Universities, Research laboratories, Industry personnel's and staff of the host institute may participate in this STTP.
- **Interested persons can fill the details in the registration link available in the programme website (Click Here) under registration tab.** Copy of institute/college ID card shall be uploaded while submitting the registration form. Confirmation of their participation will be sent through E-mail.
- Last date for registration: **On or before 1 January 2021** (Limited seats Available).
- Intimation about selection: On or before 2 January 2021. (Registration dates for Phase 2, 3 and 4 will be published soon)
- **No Registration fee for attending this online STTP. A test shall be conducted at the end of the programme. The Certificate shall be issued**

to those participants who have minimum 80% attendance and scored minimum 60% of marks in the test after submission of feedback.

Organising Committee

Chief Patron

Prof. M. Sivanandham
Secretary, SVEHT

Patron

Prof. S. Ganesh Vaidyanathan
Principal, SVCE

Convenor

Dr. V. Sumitha
HoD-Incharge/BIO

Organising Secretaries

Dr. E. Nakkeeran, Professor/BIO
Dr. K. Divakar, Associate Professor/BIO

Coordinators

Ms. R. Rathna, Assistant Professor/BIO
rrathna@svce.ac.in

For Queries contact the coordinators. Website: <https://sites.google.com/view/fmbte-2021/home>



DEPARTMENT OF BIOTECHNOLOGY

REPORT ON AICTE-SPONSORED ONLINE SHORT TERM TRAINING PROGRAMME ON “FUNCTIONAL METAGENOMICS AND BIOPROCESSING OF THERAPEUTIC ENZYMES” (PHASE - 3)

19-24th APRIL, 2021

The All India Council for Technical Education (AICTE), New Delhi sponsored online short term training programme (STTP) on “Functional Metagenomics and Bioprocessing of Therapeutic Enzymes” (Phase-3) was organized during 19-24th April, 2021 by the Department of Biotechnology at Sri Venkateswara College of Engineering, Sriperumbudur through Google Meet platform. This one week STTP included series of lectures from eminent personalities of various industries and institutions and practical demonstration sessions by the in-house faculty members. 32 registered participants were actively participated in this STTP from various colleges/Institutions across the country.

On the first day, the inaugural address followed by Keynote lecture on Genetic Code Engineering of Therapeutic Enzymes and Proteins was delivered by Dr. N. Ayyadurai, Principal Scientist, Biochemistry & Biotechnology, CSIR-Central Leather Research Institute, Chennai. After this, a lecture on Fermentative Production of Enzymes-A case study on Pectinases by Prof. E. Nakkeeran, DBT-SVCE in the forenoon. This was followed by a lecture on Metagenomics: A tool to Understand the Unknown by Dr. Mahejibin Khan, Senior Scientist, Microbiology & Fermentation Technology, CSIR-Central Food Technological Research Institute, Mysuru in the afternoon.

On day 2, Dr. Rakesh Sharma, Senior Principal Scientist, Microbial Genomics, CSIR-Institute of Genomics and Integrative Biology, New Delhi delivered a lecture on Functional Metagenomics: Exploiting the Unculturable Bacteria. This was followed by a lecture on Functional Metagenomics for Discovery of Enzymes-A Case Study on Metagenomic Screening of Nitroreductases by Dr. K. Divakar, Associate Professor, DBT-SVCE in the forenoon. This was followed by a lecture on The Road to Metagenomics: From Microbiology to DNA Sequencing Technologies by Dr. V. Naveen Kumar, Founder & Managing Director, ImmuGenix Biosciences Pvt Ltd, Chennai in the afternoon.

On day 3, Dr. K. Divakar, Associate Professor, DBT-SVCE delivered a Hands-On Session Metagenomic Sequence Analysis. This was followed by a lecture on Overview and Advances in Clinical NGS Technology by Dr. Rajesh Kumar Kesharwani, Associate Professor, Department of Computer Application, Nehru Gram Bharati, Prayagraj in the forenoon. This was followed by a lecture on Recent developments in bioprocessing of therapeutic proteins by Dr. K. Anbarasu, Assistant Professor, Department of Biotechnology, Periyar Maniammai Institute of Science & Technology, Tanjore in the afternoon.

On day 4, Dr. Gopi Ramakrishnan, Chief Operating Officer, Fermentech GSV Pvt Ltd, Tanjore delivered a lecture on Membrane Bio Separations- Practice and Practical Considerations in Pilot Plant Operations. This was followed by a lecture on Functional Genomics on Desaturase and Elongase Genes - The Therapeutic Enzymes for Omega3/6

Fattyacids by Dr. S. Kathiresan, Associate Professor, School of Life Sciences, Central University of Tamilnadu in the forenoon. This was followed by Hands on Session on Metagenomic Tools – Galaxy Server by Ms. R. Rathna, Assistant Professor, DBT-SVCE in the afternoon.

On day 5, Dr. V. Vinoth Kumar, Associate Professor, Department of Bioengineering, School of Bioengineering, SRM Institute of Science and Technology, Kattankulathur delivered a lecture on Bioprocessing and Genetic Engineering Approaches for Production of Laccase. This was followed by a lecture on Functional Metagenomics: Current Progress and Future Challenges in the Discovery of Novel Therapeutic Enzymes by Dr. Arnold Emerson I, Associate Professor, Department of Biotechnology, School of Bio Sciences and Technology, VIT Vellore in the forenoon. This was followed by a lecture on Bioprocessing of Industrial Enzymes by Dr. Chetan A Nayak, Assistant Professor, Department of Chemical Engineering, B.M.S. College of Engineering, Bengaluru in the afternoon.

On the last day, Dr. Rajni Chopra, Associate Professor, Department of Food Process Engineering, National Institute of Food Technology Entrepreneurship and Management, Haryana delivered a lecture on Role of immobilized lipases for the synthesis of structured lipids. This was followed by a lecture on Functional Genomics for Therapeutics by Dr. Jagan Obbineni, Assistant Professor, School of Agricultural Innovations and Advanced Learning, VIT Vellore in the forenoon. In the afternoon, lecture on National Education Policy 2020: The Way Ahead was delivered by Col. B. Venkat, Director, Faculty Development, All India Council for Technical Education, New Delhi followed by the valedictory address to the participants.

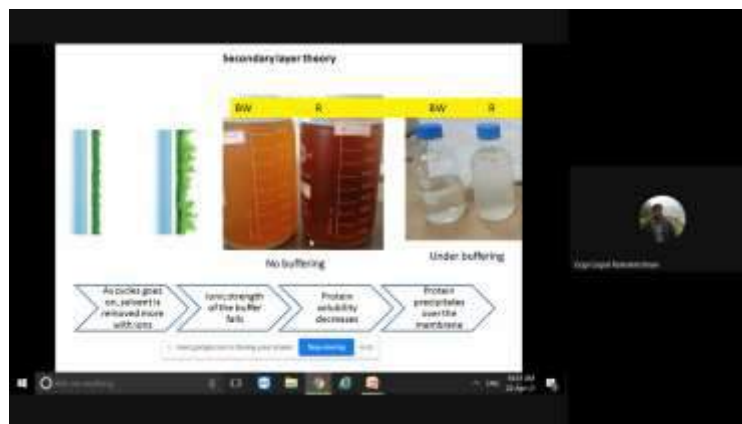
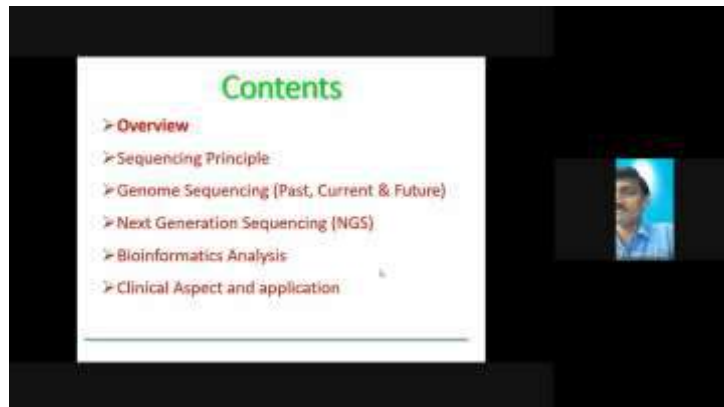
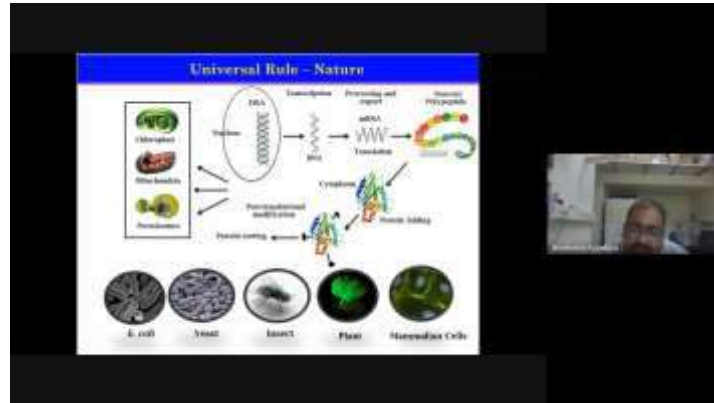
The organizing secretary, Prof. E. Nakkeeran summarized the proceedings of the STTP phase-3. The program was concluded by thanking all the contributors, the management, the funding agency, AICTE-New Delhi for sponsoring the STTP by the organizing secretary, Dr. K. Divakar. The Assessment Test to the participants was conducted through online and the feedback for all the sessions were also obtained from the participants through online Google forms. On the whole the STTP was extremely informative and helpful, and enlightened the participants. The overall feedback provided by the participants for the workshop was more than satisfactory for their needs.

Prof. E. Nakkeeran & Dr. K. Divakar

Organizing Secretaries

STTP - FMBTE - 2021

Screenshots captured during the event



Prepared by

E. Nakkeeran *R. Rathna*
Prof. E. Nakkeeran and Ms. R. Rathna AP/BIO

Prof. E. NAKKEERAN, M. Tech., Ph.D.
Department of Biotechnology
Sri Venkateswara College of Engineering
Sriperumbudur Tk - 602 117, Tamilnadu, INDIA

Approved by

V. Sumitha
Dr. V. Sumitha, HoD (I/C), BIO

Head of the Department
Department of Biotechnology
Sri Venkateswara College of Engineering
Sriperumbudur-Tk - 602 117, Tamilnadu, INDIA

